

IN THE CLAIMS:

1 1. (Currently Amended) A method for modifying data transferred from a source to a des-
2 tination, the method comprising the steps of:
3 reading one or more instructions, by a processor, each instruction indicating an
4 operation to modify the data;
5 generating, in response to the one or more instructions, one or more commands
6 wherein each command is associated with the operation to modify the data;
7 placing the commands in a data structure;
8 initiating transfer of data from the source to the destination; and
9 performing, by a device operating independently from the processor, the opera-
10 tions associated with the commands contained in the data structure to modify the data as
11 | directed by the commands ~~as~~while the data is being transferred from the source to the
12 destination.

1 2. (Previously Presented) The method as defined in claim 1 further comprising the step
2 of:
3 acquiring the data from the source.

1 3. (Previously Presented) The method as defined in claim 2 further comprising the steps
2 of:
3 generating a bit mask associated with the acquired data; and
4 transferring the bit mask and the acquired data to the destination.

1 4. (Previously Presented) The method as defined in claim 2 wherein the data structure
2 comprises one or more entries wherein each entry is associated with a command and the
3 entry contains information associated with a range of addresses and an operation code
4 that are associated with the command.

- 1 5. (Previously Presented) The method as defined in claim 4 further comprising the step
2 of:
- 3 searching the data structure for an entry containing information associated with a
4 range of addresses that matches a range of addresses associated with the acquired data;
5 if a matching entry is found, determining if an operation code contained in the
6 matching entry indicates a delete data operation; and
7 if so, generating a delete bit mask that represents data that is deleted in the ac-
8 quired data and transferring the delete bit mask and the acquired data to the destination.
- 1 6. (Previously Presented) The method as defined in claim 4 comprising the steps of:
- 2 searching the data structure for an entry containing information associated with a
3 range of addresses that matches a range of addresses associated with the acquired data;
4 if a matching entry is found, determining if an operation code contained in a
5 matching entry indicates an insert data operation; and if so,
- 6 a) generating a leading bit mask that represents leading data contained in
7 the acquired data,
- 8 b) transferring the leading bit mask and the acquired data to the destina-
9 tion,
- 10 c) acquiring insert data,
- 11 d) generating an insert data bit mask that represents the insert data,
- 12 e) transferring the insert data bit mask and the insert data to the destina-
13 tion,
- 14 f) generating a lagging bit mask that represents lagging data contained in
15 the acquired data, and
- 16 g) transferring the lagging bit mask and the acquired data to the
17 destination.

1 7. (Previously Presented) The method as defined in claim 4 wherein each entry contains
2 a length and a source address associated with the command.

1 8. (Previously Presented) The method as defined in claim 7 comprising the step of:
2 searching the data structure for an entry containing information associated with a
3 range of addresses specified by the combination of the length and the source address con-
4 tained in the entry that matches a range of addresses associated with the acquired data.

1 9. (Previously Presented) The method as defined in claim 1 wherein the data structure is
2 a table.

1 10. (Previously Presented) The method as defined in claim 1 comprising the step of:
2 clearing the data structure.

1 11. (Previously Presented) The method as defined in claim 1 wherein the source is a con-
2 text memory.

1 12. (Previously Presented) The method as defined in claim 1 wherein the destination is
2 an output buffer.

1 13. (Currently Amended) A system comprising:
2 a context memory configured to hold data;
3 a data structure configured to hold one or more commands;
4 a processor configured to read one or more instructions, each instruction indicat-
5 ing an operation to modify the data, and in response generate one or more commands to
6 modify the data, the processor further configured to place the commands in the data
7 structure;
8 an output buffer; and

9 a data mover coupled to the context memory and the output buffer and configured
10 to acquire the data from the context memory, modify the data as directed by the com-
11 mands contained in the data structure while the data is being transferred from the context
12 memory to the output buffer, and transfer the modified data to the output buffer.

1 14. (Previously Presented) The system as defined in claim 13 wherein the data structure
2 is a table.

1 15. (Previously Presented) The system as defined in claim 13 wherein the data structure
2 comprises one or more entries wherein each entry is associated with a command and the
3 entry contains information associated with a range of addresses and an operation code
4 that are associated with the command.

1 16. (Previously Presented) The system as defined in claim 15 wherein the data mover is
2 configured to search the data structure for an entry containing information associated
3 with a range of addresses that matches a range of addresses associated with the acquired
4 data and if a matching entry is found, determine if the operation code contained in the
5 matching entry indicates a delete data operation and, if so, generate a delete bit mask that
6 represents data that is deleted in the acquired data.

1 17. (Previously Presented) The system as defined in claim 15 wherein the data mover is
2 configured to search the data structure for an entry containing information associated
3 with a range of addresses that matches a range of addresses associated with the acquired
4 data and if a matching entry is found, determine if the operation code contained in the
5 matching entry indicates an insert data operation and if so, (i) generate a leading bit mask
6 that represents leading data contained in the acquired data, (ii) transfer the leading bit
7 mask and acquired data to the destination, (iii) acquire insert data, (iv) generate an insert
8 data bit mask that represents the insert data, (v) transfer the insert data bit mask and insert
9 data to the destination, (vi) generate a lagging bit mask that represents lagging data con-

10 tained in the acquired data, and (vii) transfer the lagging bit mask and the acquired data to
11 the destination.

1 18. (Previously Presented) The system as defined in claim 15 wherein each entry in the
2 data structure contains a length and a source address associated with the command.

1 19. (Previously Presented) The system as defined in claim 18 wherein the data mover is
2 configured to search the data structure for an entry containing information associated
3 with a range of addresses specified by the combination of the length and the source ad-
4 dress contained in the entry that matches a range of addresses associated with the ac-
5 quired data.

1 20. (Previously Presented) The system as defined in claim 13 wherein the data mover is
2 configured to generate a bit mask associated with the data and transfer the bit mask to the
3 output buffer.

1 21. (Previously Presented) The system as defined in claim 20 wherein the output buffer
2 comprises:

3 data steering logic configured to use the bit mask to identify valid data contained
4 in the transferred data;

5 a working register coupled to the data steering logic and configured to hold the
6 valid data transferred from the data steering logic; and

7 an output queue coupled to the working register and configured to hold the valid
8 data transferred from the working register.

1 22. (Currently Amended) An apparatus for modifying data transferred from a source to a
2 destination, the apparatus comprising:

3 means for reading one or more instructions, each instruction indicating an opera-
4 tion to modify the data;

5 means for generating, in response to the one or more instruction, one or more
6 commands wherein each command is associated with an operation to modify the data;
7 means for placing the commands in a data structure;
8 means for initiating transfer of data from the source to the destination; and
9 means for performing, independent from the means for generating, the operations
10 associated with the commands contained in the data structure to modify the data as di-
11 rected by the commands as while the data is being transferred from the source to the des-
12 tination.

1 23. (Previously Presented) The apparatus as defined in claim 22 comprising:

2 means for acquiring the data from the source.

1 24. (Previously Presented) The apparatus as defined in claim 23 comprising:

2 means for generating a bit mask associated with the acquired data; and

3 transferring the bit mask and the acquired data to the destination.

1 25. (Previously Presented) The apparatus as defined in claim 23 wherein the data struc-
2 ture comprises one or more entries wherein each entry is associated with a command and
3 the entry contains information associated with a range of addresses and an operation code
4 that are associated with the command.

1 26. (Previously Presented) The apparatus as defined in claim 25 comprising:

2 means for searching the data structure for an entry containing information associ-
3 ated with a range of addresses that matches a range of addresses associated with the ac-
4 quired data;

5 means for determining if the operation code contained in a matching entry indi-
6 cates a delete data operation; and

7 means for generating a delete bit mask that represents data that is deleted in the
8 acquired data and transferring the delete bit mask and the acquired data to the destination,
9 if the operation code in the matching entry indicates a delete data operation.

1 27. (Previously Presented) The apparatus as defined in claim 25 comprising:

2 means for searching the data structure for an entry containing information associ-
3 ated with a range of addresses that matches a range of addresses associated with the ac-
4 quired data;

5 means for determining if the operation code contained in a matching entry indi-
6 cates an insert data operation; and

7 means for (i) generating a leading bit mask that represents leading data contained
8 in the acquired data, (ii) transferring the leading bit mask and the acquired data to the
9 destination, (iii) acquiring insert data, (iv) generating an insert data bit mask that repre-
10 sents the insert data, (v) transferring the insert data bit mask and the insert data to the des-
11 tination, (vi) generating a lagging bit mask that represents lagging data contained in the
12 acquired data, and (vii) transferring the lagging bit mask and the acquired data to the des-
13 tination, if the operation code indicates an insert data operation.

1 28. (Currently Amended) A computer readable medium comprising computer executa-
2 ble instructions for execution in a processor for:

3 reading one or more instructions indicating an operation to modify the data;

4 generating, in response to the one or more instructions, one or more commands

5 wherein each command is associated with the operation to modify the data;

6 placing the commands in a data structure;

7 initiating transfer of data from the source to the destination; and

8 performing the operations associated with the commands contained in the data

9 | structure to modify the data as directed by the commands ~~as~~while the data is being trans-
10 ferred from the source to the destination.

1 29. (Previously Presented) The computer readable medium as defined in claim 28 com-
2 prising computer executable instructions for execution in a processor for:
3 acquiring the data from the source.

1 30. (Previously Presented) The computer readable medium as defined in claim 29 com-
2 prising computer executable instructions for execution in a processor for:
3 generating a bit mask associated with the acquired data; and
4 transferring the bit mask and the acquired data to the destination.

1 31. (Previously Presented) The computer readable medium as defined in claim 29
2 wherein the data structure comprises one or more entries wherein each entry is associated
3 with a command and contains information associated with a range of addresses and an
4 operation code that are associated with the command.

1 32. (Previously Presented) The computer readable medium as defined in claim 31 com-
2 prising computer executable instructions for execution in a processor for:
3 searching the data structure for an entry containing information associated with a
4 range of addresses that matches a range of addresses associated with the acquired data;
5 if a matching entry is found, determining if an operation code contained in the
6 matching entry indicates a delete data operation; and
7 if so, generating a delete bit mask that represents data that is deleted in the ac-
8 quired data and transferring the delete bit mask and the acquired data to the destination.

1 33. (Previously Presented) The computer readable medium as defined in claim 31 com-
2 prising computer executable instructions for execution in a processor for:
3 searching the data structure for an entry containing information associated with a
4 range of addresses that matches a range of addresses associated with the acquired data;
5 if a matching entry is found, determining if an operation code contained in a
6 matching entry indicates an insert data operation; and if so,

- 7 a) generating a leading bit mask that represents leading data contained in
- 8 the acquired data,
- 9 b) transferring the leading bit mask and the acquired data to the destina-
- 10 tion,
- 11 c) acquiring insert data,
- 12 d) generating an insert data bit mask that represents the insert data,
- 13 e) transferring the insert data bit mask and the insert data to the destina-
- 14 tion,
- 15 f) generating a lagging bit mask that represents lagging data contained in
- 16 the acquired data, and
- 17 g) transferring the lagging bit mask and the acquired data to the
- 18 destination.